

What is claimed is:

1. A cellular system in a code division multiple access mode comprising:

5 a mobile station for measuring reception quality of pilot signals transmitted by a plurality of base stations and setting up radio links;

a base station control unit for assigning unique information of the base stations thereunder and determining sequence information on the assignment; and

10 base stations for checking a code word transmitted from the mobile station having the radio link set up and associated with set base station unique information against a table created based on the information notified by the base station control unit and determining a transmitting base station, wherein:

15 said base station control unit has means for notifying said base station, in advance, of said unique information and said sequence information; and

said base station has means for judging whether or not the base station itself is specified as the transmitting base station
20 by creating in advance code word candidates that may be transmitted by the mobile station based on said unique information and said sequence information and checking the code word received from the mobile station against said code word candidates.

2. A cellular system in a code division multiple access mode
25 comprising:

10078003-03003

a mobile station for measuring reception quality of pilot signals transmitted by a plurality of base stations and setting up radio links;

- 5 a base station control unit for assigning code words and base station identifiers that are unique information of the base stations thereunder and determining sequence information on the base station identifiers; and

base stations for checking the code word transmitted from the mobile station having the radio link set up against a table
10 created based on correspondence between said assigned code words and said assigned base station identifiers and said sequence information and determining a transmitting base station, wherein:

- said base station control unit has means for notifying said
15 base station, in advance, of said assigned code words and said assigned base station identifiers and said sequence information; and

said base station has means for judging whether or not the base station itself is specified as the transmitting base station
20 by creating in advance code word candidates that may be transmitted by the mobile station based on said assigned base station identifiers and said sequence information and checking the code word received from the mobile station against said code word candidates.

- 25 3. The cellular system according to claim 1, wherein the maximum number of the base stations on which the mobile station may set up links is used as said sequence information.

200220-03003-03003

4. The cellular system according to claim 1, wherein a set of the base station identifiers that may be used according to the maximum number of the base stations on which the mobile station may set up links is used as said sequence information.

5 5. The cellular system according to claim 1, wherein the number of the base stations on which the mobile station currently has links set up is used as said sequence information.

6. The cellular system according to claim 1, wherein a set of the base station identifiers used by the base stations currently
10 having links set up is used as said sequence information.

7. A cellular system in a code division multiple access mode comprising:

a mobile station for measuring reception quality of pilot signals transmitted by a plurality of base stations and setting
15 up radio links;

a base station control unit for assigning code words and base station identifiers that are unique information of the base stations thereunder and determining a predetermined base station number threshold; and

20 base stations for checking the code word transmitted from the mobile station having the radio link set up against a table created based on correspondence between said assigned code words and said assigned base station identifiers and said base station

number threshold and determining a transmitting base station,
wherein:

said base station control unit has means for, in the case
where the mobile station sets up links with the base stations
5 equal to or exceeding said base station number threshold,
duplicatively assigning the same base station identifier and
notifying said base station, in advance, of said duplicatively
assigned base station identifier, said assigned code words and
said base station number threshold; and

10 said base station has means for, in the case where the mobile
station sets up links with the base stations equal to or exceeding
said base station number threshold, judging whether or not the
base station itself is specified as the transmitting base station
by creating in advance code word candidates that may be transmitted
15 by the mobile station based on said duplicatively assigned base
station identifier and said base station number threshold and
checking the code word received from the mobile station against
said code word candidates

8. A cellular system using a code division multiple access
mode and including a mobile station, base stations having radio
links set up with said mobile station and a base station control
unit assigning base station identifiers to said base stations
in predetermined order, wherein:

said base station control unit has first means for notifying
each base station of the maximum base station number that is
the maximum number of the base stations which may have the radio
links set up with said mobile station;

said mobile station has second means for measuring reception quality of pilot signals transmitted by said base stations, determining one transmitting base station or a plurality of transmitting base stations out of said base stations according to measuring results thereof, and transmitting to each base station a code word indicating a combination of the base station identifiers of said transmitting base stations; and

each of said base stations has third means for judging whether or not the base station is specified as the transmitting base station by determining judgement candidates that are the code words which may be transmitted by said mobile station based on said order and said maximum base station number and checking the code word received from said mobile station against said judgement candidates.

9. The cellular system according to claim 8, wherein:

said first means determines the base station identifiers that may be used according to said maximum base station number and notifies each base station of the determined base station identifiers instead of said maximum base station number; and

said third means determines said judgement candidates based on the determined base station identifiers instead of said order and said maximum base station number.

10. The cellular system according to claim 8, wherein:

said first means notifies each base station of the link set-up base station number that is the number of said base stations instead of said maximum base station number; and

said third means determines said judgement candidates based on said order and said link set-up base station number instead of said order and said maximum base station number.

11. The cellular system according to claim 8, wherein:

said first means notifies each base station of the base station identifiers assigned to said base stations instead of said maximum base station number; and

said third means determines said judgement candidates based on the base station identifiers assigned to said base stations instead of said order and said maximum base station number.

12. A cellular system using a code division multiple access mode and including a mobile station, base stations having radio links set up with said mobile station and a base station control unit assigning base station identifiers to said base stations, wherein:

said base station control unit has means for, in the case where the number of said base stations is a predetermined base station number threshold or more, duplicatively assigning the base station identifier that is already used;

said mobile station has means for measuring reception quality of pilot signals transmitted by said base stations, determining one transmitting base station or a plurality of transmitting base stations out of said base stations according to measuring results thereof, and transmitting to each base station a code word indicating a combination of the base station identifiers of said transmitting base stations; and

10078003 030002

each of said base stations has means for judging whether or not the base station is specified as the transmitting base station by checking the code word received from said mobile station against code words indicating combinations of said base station identifiers of said base stations.

13. A base station specification method in a cellular system using a code division multiple access mode and having

a mobile station for measuring reception quality of pilot signals transmitted by a plurality of base stations and setting up radio links,

a base station control unit for assigning unique information of the base stations thereunder and determining sequence information on the assignment, and

base stations for checking a code word transmitted from the mobile station having the radio link set up and associated with set base station unique information against a table created based on the information notified by the base station control unit and determining a transmitting base station, wherein:

said base station control unit has a step for notifying said base station, in advance, of said unique information and said sequence information; and

said base station has a step for judging whether or not the base station itself is specified as the transmitting base station by creating in advance code word candidates that may be transmitted by the mobile station based on said unique information and said sequence information and checking the code

20078003-0300E

word received from the mobile station against said code word candidates.

14. A base station specification method in a cellular system using a code division multiple access mode and having

5 a mobile station for measuring reception quality of pilot signals transmitted by a plurality of base stations and setting up radio links,

10 a base station control unit for assigning code words and base station identifiers that are unique information of the base stations thereunder and determining sequence information on the base station identifiers, and

base stations for checking the code word transmitted from the mobile station having the radio link set up against a table created based on correspondence between said assigned code words and said assigned base station identifiers and said sequence information and determining a transmitting base station, wherein:

20 said base station control unit has a step for notifying said base station, in advance, of said assigned code words and said assigned base station identifiers and said sequence information; and

25 said base station has a step for judging whether or not the base station itself is specified as the transmitting base station by creating in advance code word candidates that may be transmitted by the mobile station based on said assigned base station identifiers and said sequence information and checking

10078003-022002

15. The base station specification method according to claim
13, wherein the maximum number of the base stations on which
5 the mobile station may set up links is used as said sequence
information.

17. The base station specification method according to claim
13, wherein the number of the base stations on which the mobile
station currently has links set up is used as said sequence
15 information.

18. The base station specification method according to claim 13, wherein a set of the base station identifiers used by the base stations currently having links set up is used as said sequence information.

20 19. A base station specification method in a cellular system
using a code division multiple access mode and having

a mobile station for measuring reception quality of pilot signals transmitted by a plurality of base stations and setting up radio links,

a base station control unit for assigning code words and
5 base station identifiers that are unique information of the base stations thereunder and determining a predetermined base station number threshold, and

base stations for checking the code word transmitted from the mobile station having the radio link set up against a table
10 created based on correspondence between said assigned code words and said assigned base station identifiers and said base station number threshold and determining a transmitting base station, wherein:

said base station control unit has a step for, in the case
15 where the mobile station sets up links with the base stations equal to or exceeding said base station number threshold, duplicatively assigning the same base station identifier and notifying said base station, in advance, of said duplicatively assigned base station identifier, said assigned code words and
20 said base station number threshold; and

said base station has a step for, in the case where the mobile station sets up links with the base stations equal to or exceeding said base station number threshold, judging whether or not the base station itself is specified as the transmitting
25 base station by creating in advance code word candidates that may be transmitted by the mobile station based on said duplicatively assigned base station identifier and said base

10078003-030002

station number threshold and checking the code word received from the mobile station against said code word candidates.

20. A base station specification method in a cellular system using a code division multiple access mode and including a mobile station, base stations having radio links set up with said mobile station and a base station control unit assigning base station identifiers to said base stations in predetermined order, wherein:

said base station control unit has a first step for notifying each base station of the maximum base station number that is the maximum number of the base stations which may have the radio links set up with said mobile station;

said mobile station has a second step for measuring reception quality of pilot signals transmitted by said base stations, determining one transmitting base station or a plurality of transmitting base stations out of said base stations according to measuring results thereof, and transmitting to each base station a code word indicating a combination of the base station identifiers of said transmitting base stations; and

each of said base stations has a third step for judging whether or not the base station is specified as the transmitting base station by determining judgement candidates that are the code words which may be transmitted by said mobile station based on said order and said maximum base station number and checking the code word received from said mobile station against said judgement candidates.

20020303-03003

21. The base station specification method according to claim 20, wherein:

said first step determines the base station identifiers that may be used according to said maximum base station number and notifies each base station of the determined base station identifiers instead of said maximum base station number; and

said third step determines said judgement candidates based on the determined base station identifiers instead of said order and said maximum base station number.

22. The base station specification method according to claim 20, wherein:

said first step notifies each base station of the link set-up base station number that is the number of said base stations instead of said maximum base station number; and

said third step determines said judgement candidates based on said order and said link set-up base station number instead of said order and said maximum base station number.

23. The base station specification method according to claim 20, wherein:

said first step notifies each base station of the base station identifiers assigned to said base stations instead of said maximum base station number; and

said third step determines said judgement candidates based on the base station identifiers assigned to said base stations instead of said order and said maximum base station number.

24. A base station specification method in a cellular system using a code division multiple access mode and including a mobile station, base stations having radio links set up with said mobile station and a base station control unit assigning base station identifiers to said base stations, wherein:

said base station control unit has a step for, in the case where the number of said base stations is a predetermined base station number threshold or more, duplicatively assigning the base station identifier that is already used;

said mobile station has a step for measuring reception quality of pilot signals transmitted by said base stations, determining one transmitting base station or a plurality of transmitting base stations out of said base stations according to measuring results thereof, and transmitting to each base station a code word indicating a combination of the base station identifiers of said transmitting base stations; and

each of said base stations has a step for judging whether or not the base station is specified as the transmitting base station by checking the code word received from said mobile station against code words indicating combinations of said base station identifiers of said base stations.

20078003-02002